

1 What is claimed is:

2
3 1. A detergent storing assembly of a washing machine, the detergent storing
4 assembly comprising:

5 a detergent box provided to a cabinet of the washing machine to hold detergent and to
6 supply the detergent to a tub for washing;

7 a lid part fixed to a topside of the detergent box to open/close; and

8 an incorrect-assembling preventing means for leading the lid part to a correct position
9 for a reciprocal assembling of the lid part and the detergent box.

10
11 2. The detergent storing assembly as claimed in claim 1, wherein the incorrect-
12 assembling preventing means comprises;

13 at least one guide protrusion protruding from a bottom of the lid part to interrupt the
14 reciprocal assembling in case that the lid part is incorrectly disposed over the detergent box,
15 and

16 at least one guide groove formed at a portion of the detergent box corresponding to
17 the guide protrusion to have the at least one guide protrusion inserted therein.

18
19 3. The detergent storing assembly as claimed in claim 1, wherein the incorrect-
20 assembling preventing means comprises;

21 at least one guide protrusion protruding from the topside of the detergent box to
22 interrupt the reciprocal assembling in case that the lid part is incorrectly disposed over the
23 detergent box, and

24 at least one guide groove formed at a bottom of the lid part corresponding to the

guide protrusion to have the at least one guide protrusion inserted therein.

4. The detergent storing assembly as claimed in claim 1, wherein the lid part comprises;

a lid frame fixed to the detergent box and having an opening at a center to put the detergent in the detergent box, and

a revolvable lid installed at one side of the lid frame to open/close the topside of the detergent box.

5. The detergent storing assembly as claimed in claim 4, wherein the lid frame is fixed to the detergent box by at least one screw coupled from a topside of the lid frame.

6. The detergent storing assembly as claimed in claim 5, wherein the lid frame comprises coupling protrusions protruding from a bottom toward the detergent box to have cavities in an axial direction, respectively and wherein the detergent box comprises insertion protrusions protruding from a rim of the topside of the detergent box to be inserted in the cavities of the coupling protrusions and having screw threads inside to be coupled to the screws, respectively.

7. The detergent storing assembly as claimed in claim 4, wherein the incorrect-assembling preventing means comprises;

at least one guide protrusion protruding from a bottom of the lid frame to interrupt the reciprocal assembling in case that the lid part is incorrectly disposed over the detergent box, and

49 at least one guide groove formed at a rim of the detergent box corresponding to the
50 guide protrusion to have the at least one guide protrusion inserted therein.

51
52 8. The detergent storing assembly as claimed in claim 4, wherein the incorrect-
53 assembling preventing means comprises;

54 at least one guide protrusion protruding from a rim of the detergent box to interrupt
55 the reciprocal assembling in case that the lid part is incorrectly disposed over the detergent
56 box, and

57 at least one guide groove formed at a bottom of the lid part corresponding to the
58 guide protrusion to have the at least one guide protrusion inserted therein.

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60 9. The detergent storing assembly as claimed in claim 4, wherein the lid frame
61 comprises a rectangular frame having a rectangular opening at a central part.

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63 10. The detergent storing assembly as claimed in claim 6, wherein the lid frame
64 comprises a rectangular frame having a rectangular opening at a central part.

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66 11. The detergent storing assembly as claimed in claim 10, wherein the incorrect-
67 assembling preventing means comprises;

68 guide grooves recessed into inner walls of the cavities of the coupling protrusions in
69 different directions, respectively to interrupt the reciprocal assembling in case that the lid part
70 is incorrectly disposed over the detergent box, and

71 guide protrusions protruding from outsides of the insertion protrusions in directions
72 corresponding to the guide grooves, respectively.

73
74 12. A washing machine comprising:
75 a tub having an open front side to hold water and detergent;
76 a drum rotatably installed in the tub to hold laundry;
77 a motor rotating the drum;
78 a cabinet having the tub and the motor inside; and
79 a detergent storing assembly at the cabinet to provide the detergent to detergent to the
80 tub, the detergent storing assembly comprising:
81 a detergent box having an open topside to store the detergent and to
82 provide the detergent to the tub for washing;
83 a lid part fixed to the topside of the detergent box to open/close; and
84 an incorrect-assembling preventing means for leading the lid part to
85 a correct position for a reciprocal assembling of the lid part and the detergent
86 box.

87
88 13. The washing machine as claimed in claim 12, wherein the incorrect-
89 assembling preventing means comprises;
90 at least one guide protrusion protruding from a bottom of the lid part to interrupt the
91 reciprocal assembling in case that the lid part is incorrectly disposed over the detergent box,
92 and
93 at least one guide groove formed at a portion of the detergent box corresponding to
94 the guide protrusion to have the at least one guide protrusion inserted therein.

95
96 14. The washing machine as claimed in claim 12, wherein the incorrect-

97 assembling preventing means comprises;

98 at least one guide protrusion protruding from the topside of the detergent box to
99 interrupt the reciprocal assembling in case that the lid part is incorrectly disposed over the
100 detergent box, and

101 at least one guide groove formed at a bottom of the lid part corresponding to the
102 guide protrusion to have the at least one guide protrusion inserted therein.

103
104 15. The washing machine as claimed in claim 12, wherein the lid part comprises;
105 a lid frame fixed to the detergent box and having an opening at a center to put the
106 detergent in the detergent box, and

107 a revolvable lid installed at one side of the lid frame to open/close the topside of the
108 detergent box.

109
110 16. The washing machine as claimed in claim 15, wherein the lid frame is fixed
111 to the detergent box by at least one screw coupled from a topside of the lid frame.

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113 17. The washing machine as claimed in claim 16, wherein the lid frame
114 comprises coupling protrusions protruding from a bottom toward the detergent box to have
115 cavities in an axial direction, respectively and wherein the detergent box comprises insertion
116 protrusions protruding from a rim of the topside of the detergent box to be inserted in the
117 cavities of the coupling protrusions and having screw threads inside to be coupled to the
118 screws, respectively.

119
120 18. The washing machine as claimed in claim 17, wherein the lid frame

comprises a rectangular frame having a rectangular opening at a central part.

19. The washing machine as claimed in claim 18, wherein the coupling protrusions are formed at bottoms of a pair of long or short sides of the lid frame.

20. The washing machine as claimed in claim 19, wherein the incorrect-assembling preventing means comprises;

guide grooves formed at inner walls of the cavities of the coupling protrusions at a pair of the long or short sides in different directions, respectively to interrupt the reciprocal assembling in case that the lid part is incorrectly disposed over the detergent box, and

guide protrusions protruding from outsides of the insertion protrusions in directions corresponding to the guide grooves, respectively.